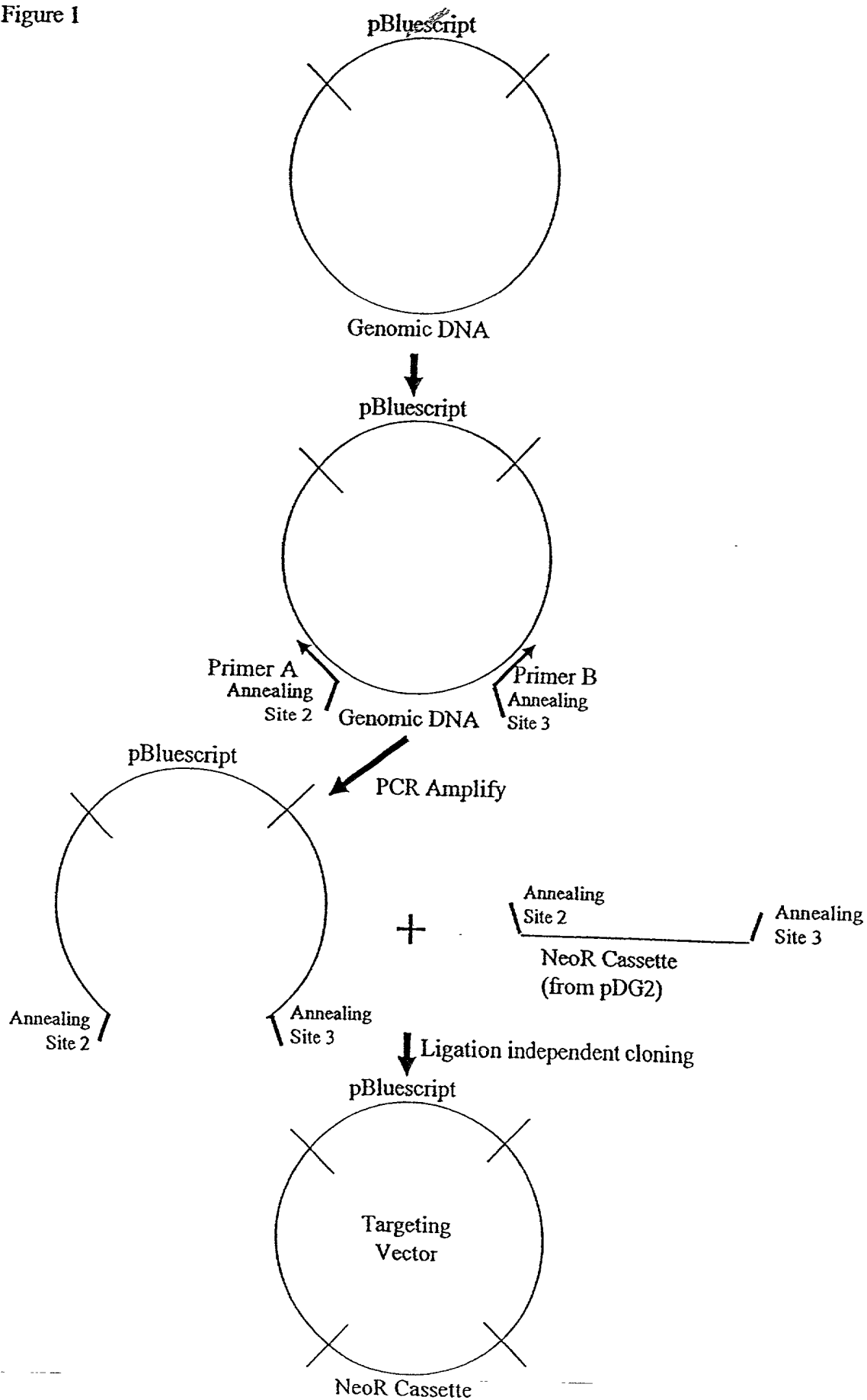
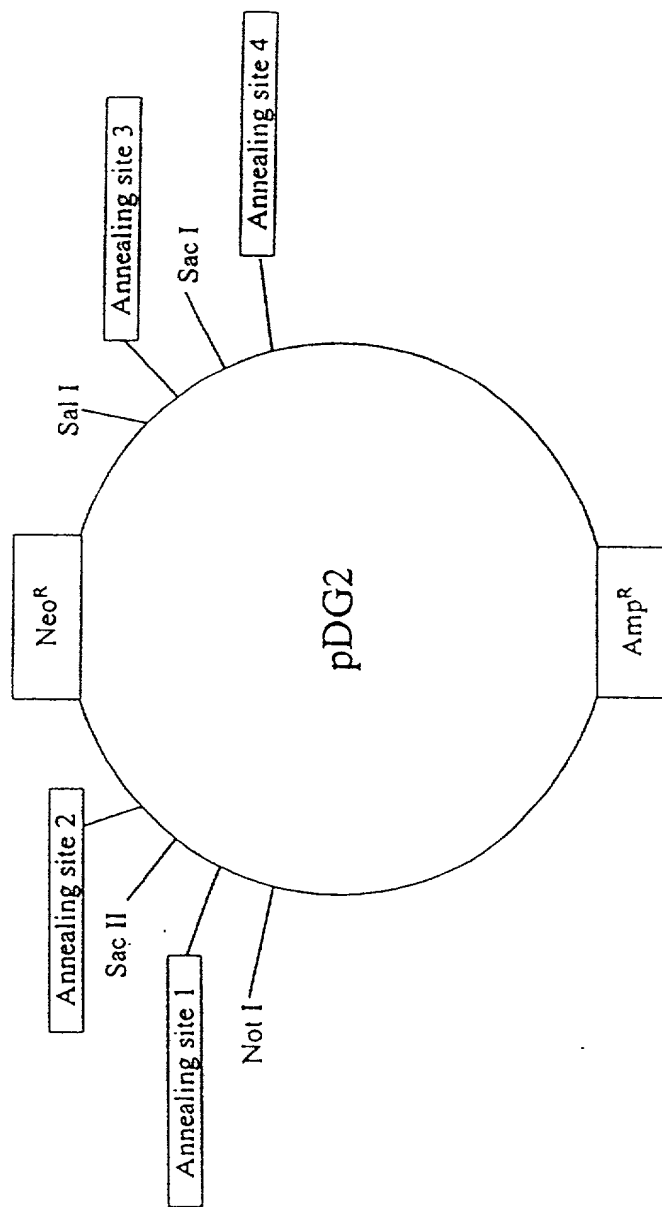


Figure 1





Plasmid Backbone

FIGURE 2A

FIGURE 2B

pDG2.

GTTAACACTACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTGTTTATTTTCTAAATACATTCAAATA
TGATCCGCTCATGAGACAATAACCCGTGATAAATGCTTCAATAATATTGAAAAAGGAAGAGTATGAGTATTCAACATTTTC
CGTGTGCGCCCTTATTCCTTTTTTTCGGGCATTTTGCCTTCTGTTTTTGTCTCACCAGAAACGCTGGTGAAAGTAAAGA
TGCTGAAGATCAGTTGGGTGCACGAGTGGGTTACATCGAATCGGATCTCAACAGCGGTAAAGATCCTTGAGAGTTTTCGCC
CCGAAGAACGTTCTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTGTGACGCCCGGCA
GAGCAACTCGGTGCGCTACACTATTCTCAGAATGACTGGTTAGTACTCAGGATCAGAAAAAGCATCTTACGGA
TGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAACCATGAGTGATAACACTGCGGCCAACTTACTTCTGACAACGA
TCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCAACATGGGGGATCATGTAACCTGCGCTTGATCGTTGGGAAACGGAG
CTGAATGAAGCCATACCAAACGACGAGCGTGACACCGATGCTGTAGCAATGGCAACACGTTGCGCCAACTATTAACT
TGGCGAACTACTTACTGCTAGCTTCCCGGCAATAATAGACTGGATGGAGGCGGATAAAGTTGCGAGGACCACTTCTGCG
GCTCGGCCCTTCCGGCTGCTGGTTTATTGCTGATAAATCTGGAGCGGTGAGCGTGGGTTCTCGCGGTATCTTGACGCA
CTGGGGCCGATGGTAAGCCCTCCCGTATCGTAGTTATCTACAGCAGGGGAGTCAGGCAACTATGGATGAACGAAATAG
ACAGATCGCTGAGATAGGTGCTCTAGTATTAAGCATTGGTAACTGTCAGACCAAGTTTACTCATATATACTTTAGATTG
ATTTACCCCGGTGATAATCAGAAAAAGCCCCAAAAACAGGAAGATTGTATAAGCAAATATTAAATTTGTAACGTTAATA
TTTTGTTAAATTTTCGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAAACCAATAGGCCGGAATTCGGCAAAATCCCTTAT
AAATCAAAGAAATAGCCCGAGATAGGTTGAGTGTGTTCCAGTTTGGAAACAAGATCCCATTTAAAGAAACCTGGACTC
CAACGTCAAAGGGCGAAAAACCGTCTATCAGGCGGATGGGCCACTAGCTGAACCATCACCACCAATCAAGTTTTTGGGGT
CGAGGTGCGGTAAAGCACTAAATCGGAACCCCTAAAGGGAGCCCCGATTAGAGCTTGACGGGGAAGCGAACGTTGGCGA
GAAAGGAAGGGAAGAAAGCGAAAGGAGCGGCGCTAGGCGCTGGCAAGTGTAGCGGTACGCTGCGCGTAAACCACCACA
CCCGCGCGCTTAATGCGCGCTACAGGCGCGGTAAAGGATCTAGGTGAAGATCCTTTTGATAATCTCATGACAAAA
TCCCTTGAATGTAGTTTTCGTTCCACTGAGCGCTCAGACCCCTAGAAAAGATCAAAGGATCTCTTGAGATCCTTTTTT
CTGCTCGCAATGCTGCTGTTGCAACAAAAAACACCGCTACGAGCGGTGGTTTTGCTCCGGATCAAGAGCTACCAAC
TCTTTTTCCGAAGGTAACCTGGCTTCAGCAGAGCGCAGATACCAAACTACTGTTCTCTAGTGTAGCGGTAGTTAGGCCACC
ACTTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAG
TCGTGCTTACCGGGTGGACTCAAGACGATAGTTACGGATAAGGCGCAGCGGTCCGGCTGAACCGGGGGTTCGTGCA
ACAGCGCCAGCTTGGAGCAACGACCTACACCGAATGAGATCACTACAGCGTGAGCTATGAGAAGCGCAACGCTTCCCG
AAGGGAGAAAGGCGCAGGATCTCCGTTAAGCGCAGGTGCGAAGCAGGAGCGCAGCAGGAGGCTCCAGGGGGAAC
GCCTGGTATCTTTATAGTCTGTGCGGTTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGCG
GAGCCTATGGA AAAACGCGCAGCAACGCGGCTTTTTACGGTTCCTGGCTTTTGCTGGCCTTTTGCTCAGATGTAATGTG
AGTTAGCTCACTCATTAGGCACCCAGGCTTTACATTTATGCTTCCGGCTCGATGTTGTGTGGAATTGTGAGCGGATA
ACAATTTCAACAGGAAGACGATATGACCATATACCGCAAGCTACGTAATACGACTCACTAGGCGGCGGTTTTAAAC
AATGTGCTCTCTTTGGGTTGCTTCCGGGGCCAGCGCAGACAAGAACAGTTGACGTCAAGCTTCCGGGCGCAGTGTCT
AGCGGCGCGCGAATTCTGTCAGGATTTCAGGGGCCCTGCAGGTCAATTCTACCGGTAGGGGAGGCGCTTTCCGAAGG
CAGTCTGGAGCATGCGCTTTAGCAGCCCCGCTGGCACTTGGCGCTACACAAGTGGCCTCTGGCCTCGCACATTTCCACA
TCCACCGGTAGCGCCAACCGGCTCGGTTCTTGTGTGGCCCTTCGCGCCACCTTCTACTCTCTCCCTAGTCAGGAAGTTC
CCCCCGCGCCGCGAGCTCGCGTCTGTCAGGACGTGACAAAATGGAAGTAGCAGCTCTCACTAGTCTCGTGAGATGGACAG
CACCGCTGAGCAATGGAAGCGGGTAGGCTTTTGGGGCAGCGCCCAATGAGCACTTGCTCTCTCGCTTTGGGCTCAGA
GGCTGGGAAGGGGTGGGTTCGGGGCGGGCTCAGGGCGGGCTCAGGGCGGGCGCGCGAAGGCTCTCCGAGGCC
GGCATCTTCGCACGCTTCAAAGCGCACGTCTGCGCGCTGTTCTCTCTCTCATCTCCGGGCTTTTCGACCTGCAGC
CAATATGGGATCGGCCATTGAACAAGATGGATTGCACGCAGGTTCTCGGGCGCTTGGGTGGAGAGGCTATTCCGCTATG
ACTGGGCACAAAGACAATCGGCTGCTCTGATGCGCGCGTGTTCGGGCTGTGACGCGAGGGCGCCCGGTTCTTTTGTG
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TTGGCGAGCTGTGCTCGACGTGTCTAGTGAAGCGGGAAGGACTGGCTGCTATTGGCGAAGTGCAGGCGAGGATCTCC
TGTCATCTCACTTGTGCTCTGCGGAGAAAGATTCATCATGGCTGATGCAATGCGCGGCTGCATACGCTTGATCCGGCT
ACCTGCCATTTCGACCAACGAAGCGAAACATCGCATCGAGCGAGCAGTACTCGGATGGAAGCCGCTTGTGCTATCAGGA
TGATCTGGAAGAGAGCATCAGGGGCTCGCGCCAGCCGAATGTTCCGAGGCTCAAGGCGCGCATGCCCGACGGCGATG
ATCTCGTCTGACCCATGGCGATGCTGCTTTCGCGAATATCATGGTGGAAAATGGCCGCTTTTCTGGATTCTCATGCT
GGCGGGCTGGGTGTGGCGGACCGCATCAGGACATAGCGTTGGTCAACCGTGATTTCTGGAAGCTTGGCGCGAATG
GGCTGACCGCTTCTCGTGCTTTACGATATCGCGCTCCGATTCGCGCATTCGCTTCTATCGCCTTCTTGACGAGT
TCTTCTGAGGGGATCGATCCGCTCTGTAAGCTGCAGAAATGATGATCTATTAACAATAAAGATGTCCACTAAAATGG
AAGTTTTCTCTGTCATACTTTGTTAAGAAGGGTGAGAACAGAGTACCTACATTTTGAATGGAAGGATTGGAGCTACGGG
GTGGGGGTGGGGTGGGATTAGATAAATGCTGCTCTTTACTGAAGGCTCTTTACTATTGCTTTATGATAATGTTTCATAG
TTGGATATCATAAATTTAAACAGAAAAACAAATTAAGGGCGAGCTCATCTCCCACTCATGATCTATAGATCTATAGA
TCTCTCTGGGATCATTTGTTTTCTCTTGTATTTCCCACTTTGGTGTCTAAGTACTGTGGTTTTCAAATGTGTCAGTTTCA
TGCCCTGAAGAACGAGATCAGCAGCCTCTGTTCCACATACACTTCATTCTCAGTATTGTTTTGCCAAGTCTAATTTCCAT
CAGAAGCTGACTCTAGATCTGGATCCGGCCAGCTAGGCCGTGACCTCGAGTGATCAGGTACCAAGGTTCTCGCTCTGTG
TCCGTTGAGCTCGACGACACAGGACACGCAAAATTAATTAAGGCCGCGCGGTACCTCTAGTCAAGGCCTTAAGTGAGTCTG
TATTACGGACTGGCCGCTGTTTTAACACGCTGCTGACTGGGAAAAACCTTCGGGTTACCCAACTTAATCGCCTTGACGACA
TCCCCCTTTCGCGACGTCGCGTAAATAGCGAAGAGGCCGACCGATCGCCTTCCCAACGTTTCGCGAGCTGAATGGCG
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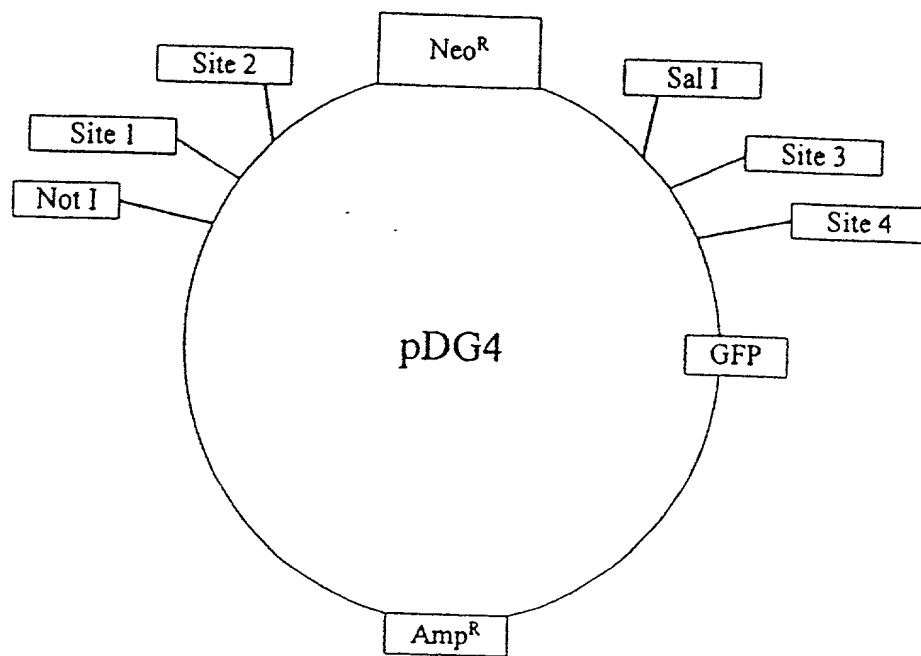


FIGURE 3A

FIGURE 3B

pDG4:

GTTTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCGCGTTACATAACTTACGGTAAATGG
 CCGCGCTGGCTGACCGCCCAACGACCCCGCCCATTTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGA
 CTTTCCAATGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGT
 ACGCCCCCTATTGACGTCAATGACGAAATGGCCCGCTGGCATTAAAGCCAGTACATGACCTTATGGGACTTTCTTAC
 TTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTTTGGCAGTACATCAATGGGCGTGATAGC
 GGTGTTGACTCAGCGGGATTTCCAAGTCTCCACCCCATTTGACGTCAATGGGAGTTGTTTTGGCACCAAAATCAACGGGAC
 TTTCCAAAATGTCGTAACAACTCCGCCCATTTGACGCAATGGGCGTAGGCGTGACGGTGGGAGGTCTATATAAGCAG
 AGCTGGTTTAGTGAAACCGTCAGATCCGCTAGCGCTACCGGTGCGCCACCATGGTGAGCAAGGGGAGGAGCTGTTCAACGG
 GGTGGTGCCCATCTGGTCGAGCTGGACGGGACGTAACCGGCCCAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATG
 CCACCTACGGCAAGCTGACCCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGTGCCCTGGCCACCCTCGTGACCACC
 CTGACCTACGGCGTGACGTGCTTCAGCGCTACCCCGACCATGAAGCAGCAGACTTCTTCAAGTCCGCCATGCCCGA
 AGGCTACGTCCAGGAGCGCACCCTCTTCTCAAGGACGACGGCAACTACAAGACCCGCGCGAGGTGAAGTTCGAGGGCG
 ACACCTGGTGAAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCTGGGGCACAAGCTGGAGTAC
 AACTACAACAGCCACAACGCTCTATATCATGGCCGACAAGCAGAAGAACCGCATCAAGGTGAACCTTCAAGATCCGCCACA
 CATCGAGGACGGCAGCGTGAGCTCGCCGACCACTACCAGCAGAACACCCCATCGGCGAGGGCCCGTGCTGCTGCCCG
 ACAACCACTACCTGAGGACCCAGTCCGCCCTGAGCAAGACCCCAACGAGAAGCGGATCAGATGGTCTCTGCTGGAGTTC
 GTGACCGCGCGGGGATCACTCTCGGCGATGGACGAGCTGTACAAGTCCGGACTCAGATCCACCGGATCTAGATAACTGAT
 CATAATCAGCCATACCACATTTGTAGAGGTTTTACTTGCTTTAAAAAACCTCCACACCTCCCCCTGAACCTGAAACATA
 AAATGAATGCAATTTGTTGTTAACTTGTATTATGACGTTATAATGGTTACAAATAAGCAATAGCATCACAATTTT
 ACAATAAAGCATTGTTTCACTGCACTTCTAGTTGTGGTTTGTCCAAACTCATCAATGTATCTTAAACGCGAAGTACGTC
 GGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATTTTCTAAATACATTCAAATATGTATCCGCTCAT
 GAGACAATAACCTGATAAATGCTTCAATAATATTGAAAAAGGAAGATATGAGTATTCAACATTTCCGTGTGCGCCCTTA
 TTCCCTTTTTTGCGGCATTTTGCCCTTCTGTTTTGCTCACCAGAAACGCTGGTGAAAGTAAAGATGCTGAAGATCAG
 TTGGGTGCACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAAGTCTTGGAGAGTTTTCGCCCCGAAGAACGTTT
 TCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTGTGACGCGCGGGCAAGAGCAACTCGGTC
 GCCGCATACACTATTCTCAGAACTGACTTGGTTGAGTACTCACCAGTCACAGAAAAGCATCTTACGGATGGCATGACAGTA
 AGAGAATTATGAGTGTGCGCATAACCATGAGTGATAACACTGCGGCCAACTTACTTCTGACAAACGATCGGAGGACCGAA
 GGAGCTAACCGCTTTTTTGCAACAATGGGGGATCATGTAACCTCGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCA
 TACCAACGACGAGCGTGACACCACGATGCTGTAGCAATGGCAACAGTTGGCAGAACTATTAAGTGGCGAACTACTT
 ACTCTAGCTTCCCGGCAACAATTAATAGACTGGATGGAGGCGGATAAAGTTGACGAGCACTTCTGCGCTCGGCCCTTCC
 GGCTGGCTGGTTTATTGCTGATAAATCTGGAGCGGTGAGCGTGGGTCTCGCGGTATCATTCAGCACTGGGGCCAGATG
 GTAAGCCCTCCCGTATCGTAGTTATCTACAGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGATCGCTGAG
 ATAGGTGCGCTCACTGATTAAGCATTGGTAAGTGTGACAGCAAGTTTACTCATATATACTTTAGATTGATTTACCCCGGTT
 GATAATCAGAAAAGCCCCAAAAACAGGAAGATTGTATAAGCAATATTTAAATTTGTAACGTTAATAATTTGTTAAAAAT
 CGCGTTAAATTTTGTAAATCAGCTCATTGTTTAAACCAATAGGCCGAAATCGGCAGAAATCCCTTATAAATCAAAAGAAAT
 AGCCCCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAAACAGAGTCCACTATTAAGAAGCTGGACTCCAACGTCAAAGGG
 CGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCCAAATCAAGTTTTTTGGGGTCGAGGTGCCGTAA
 AGCACTAAATCGGAACCTTAAAGGGAGCCCCGATTAGAGCTTGACGGGAAAGCGAAGCTGGCGAGAAAGGAAGGGAA
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 GGTGCTTGCAAAACAAAAAACCCGCTACCAGCGGTGGTTTGTGTCGGATCAAGAGCTACCAACTCTTTTTCCGAAG
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 GTAGACCGCTACATACCTCGCTCTGCTAATCTGTTACAGTGGCTGCTGCCAGTGGCGATAAGTCGTGCTTACCG
 GGTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTCCGGCTGAACGGGGGTTCTGTCACACAGCCAGCTTG
 GAGCGAACGACCTACCCGAACCTAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCGAAGGGAGAAAGGC
 GGACAGGTATCCGGTAAGCGGCGAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGAAACGCTGATCTTT
 ATAGTCTGTGCGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTGTGATGCTCGTACGGGGGCGGAGCCTATGGAAA
 AACGCCAGCAACGCGGCTTTTACGGTTCTTGGCCTTTTGTGCGCTTTTGTCTCACATGTAATGTGAGTTAGCTCACTC
 ATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGAATTTGAGCGGATAACAATTTACACA
 GGAAACAGCTATGACCATGATTACGCCAAGCTACGTAATACGACTCACTAGGCGGCGCGTTTAAACCAATGTGCTCCTT
 TTGGCTTCTTCCGCGGGCCAAAGCCAGACAAGAACCACTGTGACGTCAAGCTTCCCGGACGCGTGTAGCGCGCGCGGA
 ATTCTGCAAGATTGAGGGGCCCTGCAGGTCAATTTACCGGGTAGGGGAGGCGCTTTTCCAAAGGCAGTCTGGAGCAT
 GCGCTTTAGCAGCCCGCTGGCACTTGGCGCTACACAAGTGGCTTGGCGCTCGCACATTTCCACATCCACCGGTAGCG
 CCAACCGGCTCCGTTCTTGGTGGCCCCCTTCCGCCACCTTCTACTCTCCCTAGTCAGGAAGTTCCCCCGCGCCCCG
 AGCTCGCGTCTGACGAGCGTGACAAATGGAAGTAGCAGCTCTCACTAGTCTCGTGACAGTGGACAGCAGCCGTGAGCAA
 TGGAAAGCGGTAGGCTTTGGGGCAGCGGCCAATAGCAGTTTGTCTCTTCTGCTTCTGGGCTCAGAGCTGGGAAGGG
 TGGGTCCGGGGCGGGCTCAGGGCGGGCTCAGGGGCGGGCGGCGGAAGGTCTCCCGAGGCGCGGCTTCTCGCAC
 GCTTCAAAAGCGCAGCTGCGCGCGCTGTTCTCTCTCTCTCATCTCCGGGCTTTCCGACCTGCAGCCAAATATGGGATCG
 GCCATTGAACAAGATGGATTGCAGCAGGTTCTCCGGCGCTGGGTGGAGAGGCTATTCCGCTATGACTGGGCACAACA
 GACAATCGGCTGCTCTGATGCGCGCTGTTCCGGCTGTGAGCGCAGGGGCGCGCGGTTCTTTTGTCAAGACCGACCTGT
 CCGGTGCCCTGAATGAAGTGCAGGACGAGGACGCGCGCTATCGTGGCTGGCCACGACGGGCGTTCCTTGCAGCTGTG
 CTCGACGTTGCTACTGAAGCGGAAGGAGTGGCTGCTATTGGGCGAAGTGGCGGGCAGGATCTCTGTCTCATCTACCT

TGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCCGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTGG
ACCACCAAGCGAAACATCGCATCGAGCGAGCACGTA CTGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACGAA
GAGCATCAGGGGCTCGCGCCAGCCGAACGTGTTGCCAGGCTCAAGGCGCGCATGCCGACGGCGATGATCTCGTCGTGAC
CCATGGCGATGCCTGCTTGCCGAATATCATGGTGAAAAATGGCCGCTTTTCTGGATTATCGACTGTGGCCGGCTGGGTG
TGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTC
CTCGTGCTTTACGGTATCGCCGCTCCCGATTGCGAGCGCATCGCCTTCTATGCGCTTCTTGACGAGTTCTTCTGAGGGGA
TCGATCCGTCCTGTAAGTCTGCAGAAATTGATGATCTATTAACAATAAAGATGTCCACTAAAATGGAAGTTTTCCTGT
CATACTTTGTTAAGAAGGGTGAGAACAGAGTACCTACATTTTGAATGGAAGATTGGAGCTACGGGGTGGGGTGGGGT
GGGATTAGATAAATGCCTGCTCTTTACTGAAGGCTCTTTACTATTGCTTTATGATAATGTTTCATAGTTGGATATCATAA
TTTAAACAAGCAAAACCAAATTAAGGGCCAGCTCATTCTCCCACTCATGATCTATAGATCTATAGATCTCTCGTGGGAT
CATTGTTTTTCTCTTGATTCCCACTTTGTGGTTCTAAGTACTGTGGTTTCCAAATGTGTCAGTTTCATAGCTGAAGAAC
GAGATCAGCAGCCTCTGTTCCACATACACTTCATTCTCAGTATTGTTTTGCCAAGTTCTAATTCCATCAGAAGCTGACTC
TAGATCTGGATCCGGCCAGCTAGGCCGTCGACCTCGAGTGATCAGGTACCAAGGTCTCGCTCTGTGTCCGTTGAGCTCG
ACGACACAGGACACGCAAATTAATTAAGGCCGGCCCGTACCCTCTAGTCAAGGCCCTTAAGTGAGTCGTATTACGGACTGG
CCGTCGTTTTTACAACGTCGTGACTGGGAAAAACCTGGCGTTACCCAACTTAATCGCCTTGCGAGCATCCCCCTTTCGCC
AGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTCGC
TTGTAATAAAGCCCGCTTCGGCGGGCTTTTTTTT

FIGURE 3B (Continued)

Annealing site	Sequence	Sequence after digestion
1	5' AAtgtgctcctcttttgggttggttCCGC 3' 3' Ttacacgaggagaaaccgaacgaagg 5'	5' AA 3' Ttacacgaggagaaaccgaacgaagg 3'
2	5' AActgggttcttgtctgtggttggCCCGC 3' 3' Ttgaccaagaacagacgaaccggg 5'	5' AA 3' Ttgaccaagaacagacgaaccggg 3'
3	5' AAggtcctcgtctgtgtccgttGAGCT 3' 3' Ttccaggagcgagacacagggcaac 5'	5' AA 3' Ttccaggagcgagacacagggcaac 3'
4	5' AAttgctgtcctgtgtcgtcGAGCT 3' 3' Ttaaacgcacaggacacagcagc 5'	5' AA 3' Ttaaacgcacaggacacagcagc 3'

FIGURE 5

FIGURE 6

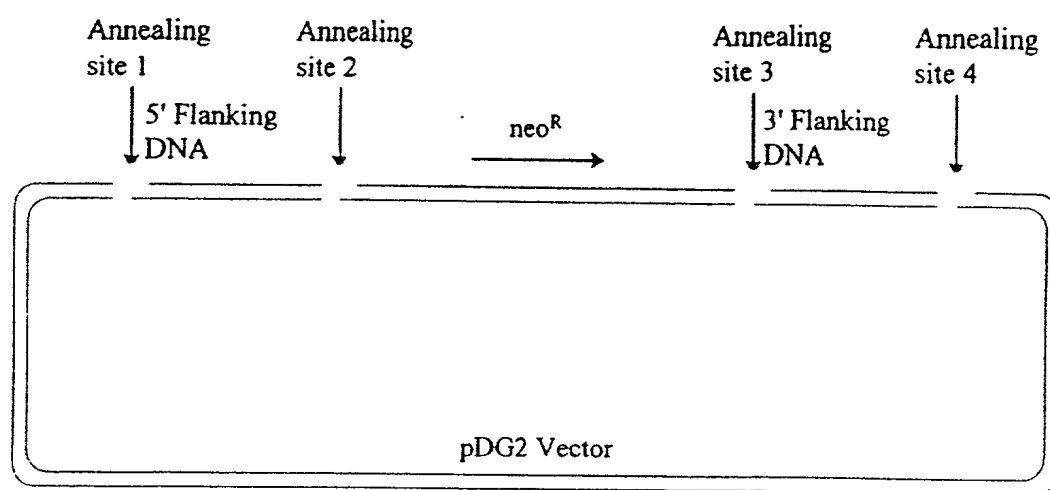
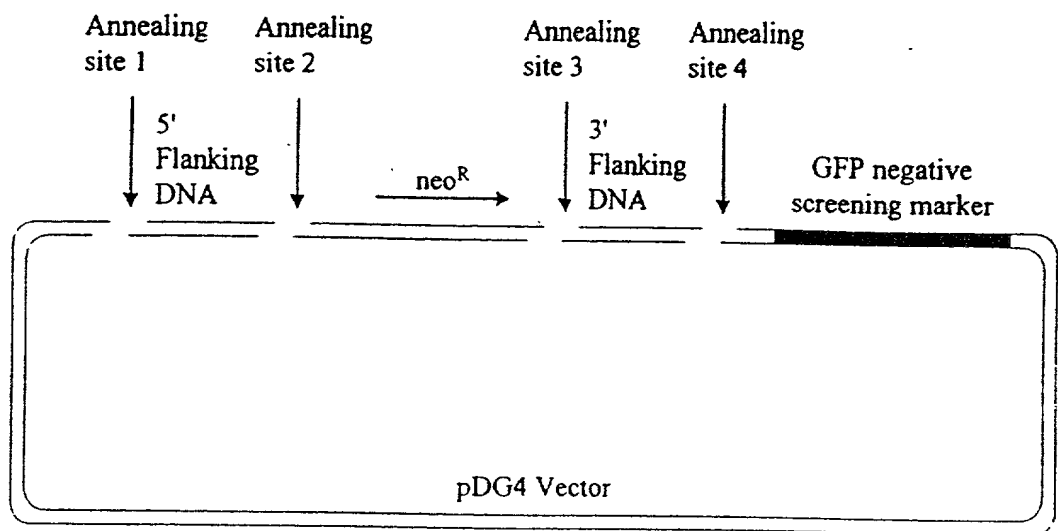


FIGURE 7



TTCCTGACAAGACTATGTCCACTCAGGAGCCCCAGAAGAGTCTTCTGGGTTCTCTCAACTCCAATGCCAC
 CTCTCACCTTGGACTGGCCACCAACCAGTCAGAGCCTTGGTGCCCTGTATGTGTCCATCCCAGATGGCCTC
 TTCCTCAGCCTAGGGCTGGTGAGTCTGGTGGAGAATGTGCTGGTTGTGATAGCCATCACC AAAAACCGCA
 ACCTGCACTCGCCCATGTATTACTTCATCTGCTGCCCTGGCCCTGTCTGACCTGATGGTAAGTGTGAGCAT
 CGTGCTGGAGACTACTATCATCCTGCTGCTGGAGGTGGGCATCCTGGTGGCCAGAGTGGCTTTGGTGAG
 CAGCTGGACAACCTCATTGACGTGCTCATCTGTGGCTCCATGGTGTCCAGTCTCTGCTTCCTGGGCATCA
 TTGCTATAGACCGCTACATCTCCATCTTCTATGCGCTGCGTTATCACAGCATCGTGACGCTGCCAGAGC
 ACGACGGGCTGTCTGGGCATCTGGATGGTCAGCATCGTCTCCAGCACCTCTTTATCACCTACTACAAG
 CACACAGCCGTTCTGCTCTGCCTCGTCACTTTCTTTCTAGCCATGCTGGCACTCATGGCGATTCTGTATG
 CCCACATGTTACAGAGAGCGTGCCAGCACGTCCAGGGCATTGCCAGCTCCACAAAAGGCGGCGGTCCAT
 CCGCCAAGGCTTCTGCCTCAAGGGTGCTGCCACCCTTACTATCCTTCTGGGGATTTCTTCTGTGCTGG
 GGCCCTTCTTCTGCTCATCTTGTCTCATCGTCTCTGCCCTCAGCACCCACCTGCAGCTGCATCTTCA
 AGA ACTTCAACCTCTTCTCTCTCTCATCGTCTCTCAGCTCCACTGTTGACCCCTCATCTATGCTTTCCG
 CAGCCAGGAGCTCCGCATGACACTCAAGGAGGTGCTGCTGTGCTCCTGGTGATCAGAGGGCGCTGGGCAG
 AGGGTGACAGTGATATCCAGTGGCTGCTGTGTGAGACCACAGGTACTCATCCCTTCTGATCTCCATT
 TGTCTAAGGGTCGACAGGATGAGCTTTAAATAGAAACCCAGAGTGCCTGGGGCCAGGAGAAAGGGTAAC
 TGTGACTGCAGGGCTCACCCAGGGCAGCTACGGGAAGTGGAGGAGACAGGGATGGGA ACTCTAGCCCTGA
 GCAAGGGTCAGACCACAGGCTCTGAAGAGCTTCACTCTCCCCACCTACAGGCAACTCCTGCTCAAGCC
 (SEQ ID NO: 19)

Targeting Vector (5' arm; 200 bp flanking neo insert):

CCGACAACAACATGAAGTGAATCAGAAGCTGGGGGCTGATACCACCTGGAGCTGCAG
 CCTCCACAGACCGCTTCTACTTCTGACAAGACTATGTCCACTCAGGAGCCCCAGAA
 GAGTCTTCTGGGTTCTCTCAACTCCAATGCCACCTCTCACCTTGGACTGGCCACCAACC
 AGTCAGAGCCTTGGTGTCTGTATGTG (SEQ ID NO: 20)

Targeting Vector (3' arm; 200 bp flanking neo insert):

GACTACTATCATCCTGCTGCTGGAGGTGGGCATCCTGGTGGCCAGAGTGGCTTTGGTG
 CAGCAGCTGGACAACCTCATTGACGTGCTCATCTGTGGCTCCATGGTGTCCAGTCTCT
 GCTTCTGGGCATCATTGCTATAGACCGCTACATCTCCATCTTCTATGCGCTGCGTTAT
 CACAGCATCGTGACGCTGCCAGAG (SEQ ID NO: 21)

FIG. 8